

REMARKS

The applicants note with appreciation the acknowledgement of the claim for priority under section 119 and the notice that all of the certified copies of the priority documents have been received.

The applicants acknowledge and appreciate receiving an initialed copy of the form PTO-1449 that was filed on March 4, 2004.

Claims 1 – 9 are pending. The applicants respectfully request reconsideration and allowance of this application in view of the above amendments and the following remarks.

The specification and claims were objected to for the reasons stated in paragraph 1 of the office action. The examiner objects to the term “silicon gel” in the specification and claims which should be spelled “silicone gel.” Also, the examiner objects to the specification on page 7, line 17, because the electrodes are formed on the semiconductor substrate while the remaining portions state that the electrodes are formed on the insulating layer. The informalities identified in the office action have been corrected by way of the above amendment. Accordingly, withdrawal of the objection is respectfully requested.

Claims 1 – 9 were rejected under 35 USC 103(a) as being unpatentable over WO 01/42776A1 to Sensirion AG (“Sensirion”) in view of WO 01/42776A1 to LG Electronics, Inc. (“LG”) and U.S. Patent Application Pub. No. 2001/0015089, Kleinhans et al. (“Kleinhans”). The applicants respectfully request that this rejection be withdrawn for the following reasons.

Claim 1 recites in combination, for example, a “humidity sensing film formed on the substrate in conformity with at least the area between the first and second electrodes and having a dielectric constant varying in accordance with humidity;” and “moisture-permeable film formed on the humidity sensing film in conformity with at least a part of the area between the

first and second electrodes, having a dielectric constant higher than the humidity sensing film and transmitting water therethrough.” Claim 9 recites, in combination, “a humidity sensing film ..., wherein a dielectric constant of the humidity sensing film varies in accordance with a moisture content ...;” and “a moisture-permeable film disposed above the humidity sensing film, wherein the moisture-permeable film has a dielectric constant that is higher than the dielectric constant of the humidity sensing film.”

Sensirion discloses a humidity sensor comprising a substrate (1), insulating layer (7), first and second electrodes (2, 3), a measuring layer (4) and a protective layer (8) above the electrodes. The applicants provide herein examples of some limitations in the claims which are neither taught nor suggested by Sensirion. For example, the office action admits that Sensirion fails to teach or suggest a moisture-permeable layer formed on the measuring layer (4).

Recognizing that Sensirion fails to teach or suggest the claimed invention, the office action cites LG and Kleinhans. These references, however, fail to remedy the deficiencies of Sensirion, for reasons including those discussed below by way of example.

LG discusses a humidity sensor that comprises a pair of electrodes (8, 8') disposed on an insulating film (7) of a silicon substrate (6). A humidity sensing film (9) is formed over the electrodes (E.g., page 6, lines 9 – 26.) Finally, a passivation film (10) is formed over the humidity sensing film (9) so that humidity is not propagated into the humidity sensing film. (E.g., page 7, lines 8 – 12.)

Kleinhans discusses a gas sensor (1) that comprises a substrate (2) and a capacitor (3) disposed over the substrate. A gel layer (4) is disposed over the substrate (2) that permits water passage but prevents foreign substance contamination.

To properly reject a claimed invention, the examiner must establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness with respect to a claimed invention, all the claim limitations must be taught or suggested by the prior art reference (or references when combined). *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Moreover, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Furthermore, the teaching or suggestion to make the claimed combination and a reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). If the examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of patent. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992).

Here, the office action fails to establish a *prima facie* case of obviousness because there is no motivation to combine the references. The examiner asserts that one skilled in the art would have been motivated to modify the humidity sensor of Sensirion to include the gel layer of Kleinhans and the humidity sensing film of LG" in order to further protect the sensor and prolong its useful life." The applicants respectfully disagree with this assertion.

LG already discloses use of a passivation film (10) formed over the humidity sensing film (9) that prevents humidity from propagating into the humidity sensing film. (E.g., LG page 7, lines 8 – 12.) Therefore, there is no motivation to modify Sensirion to include the humidity sensing film (9) but to exclude the passivation film (10).

Moreover, LG fails to disclose that the passivation film (10) has a dielectric constant higher than that of the humidity sensing film (9). Kleinhans and Sensirion also fail to disclose a gel layer that has a dielectric constant higher than that of the humidity sensing film.

Assuming for the sake of argument that one would be motivated to make the proposed modification (although applicants vigorously deny that such motivation exists), the proposed modified structure would still be different from the modify sensor recited in claim 1 and claim 9 because the film (9) of LG would have to be replaced with the gel layer (4) of Kleinhans.

In summary, there is no motivation to modify Sensirion to only include the humidity sensing film (9) of LG while excluding the passivation film (10) of LG; and the cited references fail to disclose a gel layer that has a dielectric constant higher than that of the humidity sensing film. The proposed combination, modified according to the office action, still lacks the structure of the humidity sensor recited in claims 1 and 9 because the film (9) of LG would have to be replaced with the gel layer (4) of Kleinhans.

With respect to the rejected dependent claims, applicant respectfully submits that these claims are allowable not only by virtue of their dependency from independent claim 9, but also because of additional features they recite in combination.

The applicants respectfully submit that, as described above, the cited prior art does not show or suggest the combination of features recited in the claims. The applicants do not concede that the cited prior art shows any element recited in the claims. However, the applicants have provided specific examples of elements in the claims that are clearly not present in the cited prior art.

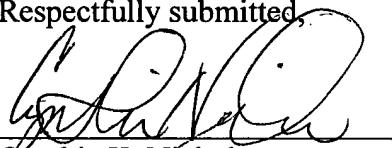
New claims 10 – 14 are added. Support for the new claims is located in the specification as filed, for example, in claims 2 – 5 and 7.

The applicants strongly emphasize that one reviewing the prosecution history should not interpret any of the examples the applicants have described herein in connection with distinguishing over the prior art as limiting to those specific features in isolation. Rather, for the sake of simplicity, the applicants have provided examples of why the claims described above are distinguishable over the cited prior art.

In view of the foregoing, the applicants respectfully submit that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the examiner is invited to contact the undersigned by telephone.

Please charge any unforeseen fees that may be due to Deposit Account No. 50-1147.

Respectfully submitted,



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